Dear Prof. Sina Fazelpour:

I am writing to apply for your research internship position in Summer 2024. I am a fourth-year PhD student in the school of information at UT Austin. I am applying to this position since there is an ideal match between the position and my research strengths and future interests.

My research interests focus on **team collaboration** across various contexts, including academia, libraries, and healthcare. I am interested not only in human collaboration but also in **human-AI collaboration**. My PhD thesis concentrates on team hierarchy in scientific collaboration in 30 million teams. Scientific collaboration is not just about knowledge sharing - it is also shaped by power dynamics that influence resource distribution, decision-making and coordination. Team hierarchy, which reflects vertical differences in authority and resource distribution, plays a crucial role in structuring these interactions and ultimately shaping the outcomes of collaboration. This study investigates how team hierarchy shapes scientific collaboration, addressing two key questions: (1) How does team hierarchy impact team performance, and how is this relationship moderated by team diversity? (2) How does team hierarchy influence junior researchers' retention, and what role does leadership play in this relationship? By examining the intersection of **hierarchy, diversity, and leadership**, this research seeks to provide deeper insights into power structures in scientific teams and their implications for effective collaboration and talent retentions. Beyond my dissertation, I am exploring how **AI** influences scientific collaboration by comparing research directions and interests before and after the adoption of large language models (LLMs) in different disciplines. Additionally, I have developed a **Human-AI Collaborative** Thematic Analysis framework that leverages multi-agent LLMs for analyzing clinical interviews. Therefore, my research interests fit with Human-AI interaction and complementarity, and interdisciplinarity.

I have rich research experience and a strong command of diverse methodologies. I excel in conducting literature reviews, applying statistical modeling, and performing large-scale data analysis. With deep expertise in Python, I develop data-driven insights, leveraging advanced computational techniques to analyze complex patterns and trends. I also have rich experience of interdisciplinary collaboration. I actively seek collaborations with researchers from diverse fields, such as organizational behavior, information systems, library science, health care and linguistics, to gain new perspectives and study team collaboration in various social contexts. For instance, I am building my academic independence by fostering long-term collaborative relationships with Professors Steven Gray and Maytal Saar-Tsechansky from the School of Business, broadening my understanding of team science across disciplines. Additionally, I collaborate with David Lankes in library science to explore the application of data science in storytelling within public libraries.

Human-AI collaboration is shaping the future, and I am deeply interested in advancing its evaluation. My focus is on exploring opportunities for effective human-AI collaboration and fostering strong interdisciplinary partnerships to build a responsible and capable AI workforce. I am deeply passionate about discussing my research on human-AI collaboration, particularly in two key areas: **exploring AI's impact on scientific research and its transformative role in the medical domain**. I am especially interested in examining how AI is reshaping the workforce, whether by augmenting human capabilities or redefining traditional roles.

My long-term goals as a researcher align closely with this internship. I would be honored to join your lab and projects. Thank you for your consideration.

Yours sincerely,

Huimin Xu